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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/883,113	06/15/2001	Klaus Schroiff	DE9200000061US1	7971

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EXAMINER

LOHN, JOSHUA A

ART UNIT PAPER NUMBER

2114

DATE MAILED: 12/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/883,113

Applicant(s)

SCHROIFF ET AL.

Examiner

Joshua A Lohn

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/01, 3/03, 10/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4 and 7-12 rejected under 35 U.S.C. 102(b) as being anticipated by Badovinatzen et al., United States Patent number, 5,926,619, published July 20, 1999.

As per claim 1, Badovinatzen discloses a method for handling failover of a data management application for a shared disk file system in a distributed computing environment having a cluster of loosely coupled nodes which provide services, comprising the steps of: defining certain nodes of the cluster as failover candidate nodes; storing configuration information for all the failover candidate nodes (Badovinatzen, col. 6, lines 32-36, where the membership list defines failover candidates as well as storing configuration information relating to those nodes); distributing message information including but not limited to failure information of at least one failover candidate node amongst the failover candidate nodes (Badovinatzen, col. 6, lines 22-24); analyzing the distributed message information and the stored configuration information in order to determine whether to take over the service of a failure node by a failover candidate node or not (Badovinatzen, col. 6, lines 31-37); updating the configuration information in case of at least one failover candidate node taking over the service of a failure node (Badovinatzen, col. 6, lines 60-67).

As per claim 2, Badovinatzen further discloses a failover request is carried on to at least a second failover candidate if only a subset of the filesystem is taken over from the failure node by

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a first failover candidate (Badovinat, col. 6, lines 44-51, where if the takeover is aborted because only a subset of nodes ACK the first candidate, a second candidate receives the failover request).

As per claim 3, Badovinat further discloses that the configuration information is stored in a central data storage arranged within the cluster (Badovinat, col. 2, lines 50-60, where the control workstation acts as a central storage).

As per claim 4, Badovinat further discloses that the distributed message information includes a failure report of at least one node (Badovinat, col. 6, lines 16-24).

As per claim 7, Badovinat further discloses that the updating of the configuration information is handled by means of a locking mechanism (Badovinat, col. 7, lines 46-57, where the system is locked during recovery, where all updates to the configuration occur).

As per claim 8, this is merely a software implementation of the methods described in claim 1 above. Badovinat discloses, in column 3, lines 9-15, that software is capable of executing the defining, storing, distributing, analyzing and updating steps of claim 8, as described above in the rejection of claim 1, and which utilize messages developed and executed in software. Therefore in view of the teachings of column 3, lines 9-15, and those provided in the rejection of claim 1 above, claim 8 is fully disclosed by Badovinat.

As per claim 9, Badovinat discloses a system for handling failover of a data management application for a shared disk file system in a distributed computing environment having a cluster of loosely coupled nodes which provide services, comprising data storage means

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for storing configuration information for failover candidate nodes (Badovinat, col. 2, lines 50-60); communication interface means for distributing message information between the failover candidate nodes (Badovinat, col. 2, lines 50-60); means for analyzing the message information and the configuration information in order to determine whether to take over the service of a failure node by a failover candidate node or not (Badovinat, col. 6, lines 16-67); means for updating the configuration information in case of at least one failover candidate node taking over the service of a failure node (Badovinat, col. 6, lines 60-67).

As per claim 10, Badovinat further discloses means for cascading the failover handling whereby a failover request is carried on to at least a second failover candidate if only a subset of the filesystem is taken over from the failure node by a first failover candidate (Badovinat, col. 6, lines 44-51, where if takeover is aborted by the first node, failover handling will cascade to a second node).

As per claim 11, Badovinat further discloses that the data storage means is a central data storage arranged within the cluster (Badovinat, col. 2, lines 50-60, where the control workstation is the central storage).

As per claim 12, Badovinat further discloses that the means for updating the configuration information are located at the failover candidate node taking over a service of a failure node (Badovinat, col. 6, lines 16-67, where the CP node has the means to update the configuration info).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Badovinat et al., in further view of Vert et al., United States Patent number, 6,360,331, filed April 17, 1998.

As per claim 5, Badovinat further discloses that the failover candidate nodes calculate a priority key, which is distributed as part of the distributed message information (Badovinat, col. 4, lines 1-10, where the node number, indicated in the heartbeat, provides a priority key). Badovinat fails to relate the key to the workload of the candidate.

Vert discloses using the workload as a priority aspect in failover candidate nodes (Vert, col. 9, lines 16-29).

It would have been obvious to one skilled in the art at the time of the invention to include a workload aspect in the priority key of Badovinat.

This would have been obvious because Badovinat only describes a very basic system for indicating a failover priority. Vert discloses that including information relating to the load on a system can help improve the priority rankings for failover candidates. It would have been obvious to include this load information in the priority key of Badovinat to provide the added benefit of avoiding overloading of nodes by giving priority ranking only to the nodes that are most capable of handling the failover workload (Vert, col. 9, lines 22-26).

As per claim 6, Badovinatx and Vert disclose that the failover candidate nodes receiving the priority key compare the received priority key with their own priority key whereby the best priority key wins the right to take over the service (Badovinatx, col. 4, lines 1-28, and Vert, col. 9, lines 16-37).

Conclusion


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure is provided on form PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua A Lohn whose telephone number is (571) 272-3661. The examiner can normally be reached on M-F 8-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Beausoliel can be reached on (571) 272-3645. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JAL


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